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ROCHESTER SCIENTISTS RECEIVE AWARD FOR LASER BEAM WORK

Work on laser beam smoothing has earned an award for two scientists at the University of Rochester's Laboratory for Laser Energetics (LLE).

John Soures, deputy directory of the laboratory, and Stanley Skupsky, group leader of the Theory and Computation Group, were awarded the 1993 Award for Excellence in Plasma Physics Research at a meeting of the Plasma Physics Division of the American Physical Society this week in St. Louis. The award was shared with two scientists from Japan and two from the Naval Research Laboratory in Washington for related work.

Soures and Skupsky were part of an LLE team that developed a novel way to create a super-smooth high-power laser beam by dispersing it into several colors, or wavelengths. The work enabled them to create a more uniform irradiation pattern on a target by passing the beams through special devices known as phase plates. Since its invention at LLE, smoothing by spectral dispersion, or SSD, has been implemented on most of the world's largest lasers used in fusion research.

"Compressing a hydrogen target is like trying to squeeze a balloon," says Soures. "You have to squeeze evenly from all sides or it slips between your fingers. SSD is one tool we use to squeeze a fusion target evenly."

The technique will be used on the laboratory's OMEGA laser, which is being upgraded and will be the world's most powerful ultraviolet laser when it is completed in 1995. The LLE team that developed SSD also included scientists Steve Craxton, Terry Kessler, Sam Letzring and Robert Short.